

**Notice of Allowability**

Application No.

09/412,738

Applicant(s)

HOPMANN ET AL.

Examiner

Art Unit

Dustin Nguyen

2154

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/23/2004.
2. ☒ The allowed claim(s) is/are 1,5-9,18-21,24,25,27-29,32-34 and 36-43.
3. ☒ The drawings filed on 04 October 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_



JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicants' attorney, Mr. Eric Kamerath, on 09/31/2004.

The application has been amended as follows:

Please amend the claims according to the attachment.

2. Please update the status of the co-pending cases on pages 16-18 in the specification as follows:

- I. Line 4, page 16, please insert the following right after the phrase "application serial number 09/412,739":

-- "now U.S. Patent No. 6,694,335" --

- II. Line 1, page 17, please insert the following right after the phrase "application serial no 09/412,766":

-- "now U.S. Patent No 6,578,054" --

- III. Line 4, page 18, please insert the following right after the phrase "application serial number 09/412,071":

-- "now U.S. Patent No 6,578,069" --

## **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance:
  - I. The references fail to teach, suggest, or motivate determining that a conflict exists between the server copy of the resource and the client copy of the resource if a conflict exists between the server copy of the resource and the client copy of the resource if a server resource tag that is representative of the server copy of the resource does not match a client resource tag that is representative of the client copy of the resource.
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

## ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (703) 305-5321. The examiner can normally be reached on flex.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Follansbee John can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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1. (Currently Amended) In a system capable of replicating a server copy of a resource stored on one or more servers with a client copy of the resource stored on one or more clients, a method for resolving a resource conflict so that the client copy of the resource can be updated to the one or more servers without overwriting any changes made to the resource by another client, the method comprising the steps of:

determining that a conflict exists between the server copy of the resource and the client copy of the resource if a server resource tag that is representative of the server copy of the resource does not match a client resource tag that is representative of the client copy of the resource;

determining, at the server, whether the server can resolve the conflict between the server copy of the resource and the client copy of the resource into a single version of the resource;

creating, by the server, a conflict resource containing information about the conflict between the server copy and the client copy of the resource, if the conflict cannot be resolved at the server;

evaluating, at the client, whether the conflict resource can be resolved into a single version of the resource in accordance with a ~~schema of~~ additional information, known to the client but not the server, regarding a client operation that created the conflict, if the conflict was not resolved at the server; and

presenting the conflict resource to a user if the conflict resource cannot be resolved by the client.

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2-4. (Canceled).

5. (Currently Amended) A-The method as defined in claim 1, wherein the step of determining further comprises the step of resolving the conflict at the server.

6. (Currently Amended) A-The method as defined in claim 1, wherein the step of determining further comprises the step of comparing the client copy of the resource with the server copy of the resource.

7. (Currently Amended) A-The method as defined in claim wherein the conflict resource comprises the server copy of the resource and the client copy of the resource.

8. (Currently Amended) A-The method as defined in claim 1, wherein the step of evaluating further comprises the step of resolving the conflict at the client in accordance with the schema.

9. (Currently Amended) A-The method as defined in claim 1, further comprising the steps of:  
uploading the resolved conflict resource to the server; and  
returning a new resource tag to the client from the server.

10-17. (Canceled).

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18. (Currently Amended) A-The computer program product as defined in claim 40, wherein the conflict resource comprises the server copy of the resource.

19. (Currently Amended) A-The computer program product as defined in claim 40, wherein the conflict resource comprises the server copy of the resource and the client copy of the resource.

20. (Currently Amended) A-The compute program product as defined in claim 40, wherein the conflict resource comprises a set of differences existing between the server copy of the resource and the client copy of the resource.

21. (Currently Amended) A-The computer program product as defined in claim 40, wherein the conflict resource comprises information useful to the client for resolving the conflict.

22-23. (Canceled).

24. (Currently Amended) A-The computer program product as defined in claim 40, further comprising program code means for executing a server level of conflict resolution.

25. (Currently Amended) A-The computer program product as defined in claim 24, wherein the program code means for executing a server level of conflict resolution further comprises program code means for resolving the conflict.

26. (Canceled).

27. (Currently Amended) A ~~The~~ computer program product as defined in claim 40, further comprising program code means for executing a client level of conflict resolution which comprises program code means for comparing the changes made to the client copy of the resource and the server copy of the resource.

28. (Currently Amended) A ~~The~~ computer program product as defined in claim 40, further comprising program code means for uploading the resolved conflict resource to the server.

29. (Currently Amended) A ~~The~~ computer program product as defined in claim 28, further comprising program code means for returning to the client a new resource tag, wherein the new resource tag identified the current version of the server copy of the resource and the client version of the resource.

30-31. (Canceled).

32. (Currently Amended) A ~~The~~ computer program product as defined in claim ~~31~~42, wherein the program code means for executing one or more levels comprises program code means for executing the server level of conflict resolution at the server.



33. (Currently Amended) ~~A~~The computer program product as defined in claim ~~31~~42, wherein the program code means for executing one or more levels comprises program code means for executing the client level of conflict resolution at the client.

34. (Currently Amended) ~~A~~The computer program product as defined in claim ~~31~~42, wherein the program code means for executing one or more levels comprises program code means for executing the third level of conflict resolution.

35. (Canceled).

36. (Currently Amended) ~~A~~The computer program product as defined in claim 42, wherein the program code means for executing one or more levels comprises program code means for resolving the conflict in accordance with a schema.

37. (Currently Amended) ~~A~~The computer program product as defined in claim 36, wherein the schema is known to the server.

38. (Currently Amended) ~~A~~The computer program product as defined in claim 36, wherein the schema is known to the client.

39. (Currently Amended) ~~A~~The computer program product as defined in claim 42,

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wherein the program code means for executing one or more levels comprises program code means for uploading the resolved resource to the server and transmitting a new resource tag to the client.

40. (Currently Amended) In a system capable of replicating a resource from one or more server to one or more clients, a computer program product for implementing a method of detecting and resolving resource conflicts so the one or more clients can upload the resource to the one or more servers without overwriting any changes made to the resource by another client, the computer program product comprising:

a computer readable medium carrying computer executable instructions for implementing the method, wherein the computer executable instructions comprise:

program code means for comparing a client resource tag with a server resource tag, wherein the client resource tag and the server resource tag are each representative of a version of the resource;

program code means for determining that no conflict exists between a client version of the resource and a server version of the resource if the client resource tag and the server resource tag match,

program code means for resolving a conflict at the server into a single version of the resource if the client resource tag and server resource tag fail to match;

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program code means for creating conflict resource contain information about the conflict between the server copy and the client copy of the resource, if the conflict cannot be resolved at the server;

program code means for resolving the conflict at the client into a single version of the resource by evaluating the conflict resource in accordance with a schema-additional information, known to the client but not the server, regarding a client operation that created the conflict; and

program code means for presenting the conflict resource to an end user for conflict resolution if the client cannot resolve the conflict.

41. (Currently Amended) A-The computer program product as in claim 40, wherein the computer executable instructions further comprise ~~program code means for~~:

program code means for uploading the resolved conflict resource to the server; and

program code means for providing the client with a new resource tag.

42. (Currently Amended) In a system capable or replicating a resource between a client and a server, a computer program product for implementing a method of detecting and resolving a conflict between a client copy of the resource and a server copy of the resource so that the client can upload the resource to the server without overwriting any changes made to the resource by another client, the computer program product comprising:

a computer readable medium carrying computer executable instructions for implementing the method, wherein the computer executable instructions comprise:

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program code means for receiving a client resource tag at a server, the client resource tag identifying a client version of the client copy of the resource,

program code means for comparing, by the server, the client resource tag with a server resource tag that identifies a server version of the server copy of the resource,

program code means for determining that there is a conflict between the client copy of the resource and the server copy of the resource if the client resource tag does not match the server resource tag; and

program code means for executing one or more levels of conflict resolution until the conflict is resolved into a single version of the resource, wherein a first level of conflict resolution comprises a server level of conflict resolution, a second level of conflict resolution comprises a client level of conflict resolution and a third level of conflict resolution requires an end user to resolve the conflict.

43. (Currently Amended) A The computer program product as in claim 42, wherein the computer-executable instructions program code means for executing one or more levels of conflict resolution further comprise ~~program code means for:~~

program code means for executing a server level of conflict resolution to resolve a server copy of a resource and a client copy of a resource having one or more conflicts into a single version of the resource;

program code means for executing a client level of conflict resolution to resolve a server copy of a resource and a client copy of a resource having one or more conflicts into a single version of the resource; and

program code means for executing a third level of conflict resolution to thereby resolve a server copy of a resource and a client copy of a resource having one or more conflicts into a single version of the resource.